SHLESINGER, ARKWRIGHT & GARVEY LLP

James E. Shlesinger Josefino P. De Leon Michael M. Zadrozny* Terrence L.B. Brown* Glen L. Gross* Brian J. Marton Reg. Patent Agent	PATENT, TRADEMARK & COPYRIGHT LAW ESTABLISHED 1950 3000 SOUTH EADS STREET ARLINGTON, VIRGINIA 22202 TELEPHONE: (703) 684-5600	Rochester, New York Shlesinger & Fitzsimmons OF Counsel B. Edward Shlesinger, Jr. George A. Arkwright George A. Garvey Donald C. Kolasch
Honorable Commissioner of and Trademarks Washington, D.C. 20231	Fax: (703) 836-5288 Fax: (703) 836-5698 November 9, 1 Patents	Onu Bet. No. 6200-1 Ogy 187732 Ogy 187732
Dear Sir: Enclosed please find identified below: Title: INFLATABLE RECREATIONA Title: Six (6)	TRANSPORTABLE WATER CRAF L APPLICATIONS	
(Verified Statement Att	ached)	
Basic Fee	\$395.00 Basic Fee	\$790.00
Claims over 20 x \$11.0 Independent claims over 3 x \$41.00	er Indepe	over 20 x \$22.00 \$ Indent claims over Index: 2.00 \$
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This is a nonprovisional application based on Provisional Application Serial No. 60/065,162, filed November 12, 1997.

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<u>X</u>	A check in the amount of $$\frac{483.00}{}$ is attached to cover the filing fee. If
	this amount should be insufficient, then please debit Deposit Account No. 19-2105 and notify the undersigned in due course.
	Do not charge any fees to Deposit Account No. 19-2105.
	This application is being filed under Rule 53.
	Respectfully submitted,
	Respectfully submitted,

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Josefino P. de Leon Reg No. 33,166

SHLESINGER, ARKWRIGHT & GARVEY LLP

Docket No.: 6560-1

Applicant: ROBERT N. YONOVER

Filed: Herewith

For: INFLATABLE TRANSPORTABLE WATER CRAFT FOR SURVIVAL OR

RECREATIONAL APPLICATIONS

<u>VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS</u> 37 CFR 1.9(I) AND 1.27(b) - Independent Inventor

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled INFLATABLE TRANSPORTABLE WATER CRAFT FOR SURVIVAL OR RECREATIONAL APPLICATIONS described in the specification filed herewith.

I have not assigned, granted, conveyed, or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

I acknowledge the duty to file, in this application or patent, notification to any change in status resulting in loss of entitlement to small entity status prior to payment, or at the time of paying, the earliest of the issue fee or any maintenance fees due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

ROBERT N, YONOVER		
Name of Inventor	Name of Inventor	Name of Inventor
Signature of Inv.	Signature of Inv.	Signature of Inv.
Date	Date	Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : November 9, 1998

Robert N. YONOVER :

Serial No.: N/A :

Filed: Herewith :

For: INFLATABLE TRANSPORTABLE :

WATER CRAFT FOR SURVIVAL OR : RECREATIONAL APPLICATIONS :

PRELIMINARY AMENDMENT

Honorable Commissioner of Patents and Trademarks Washington, D.C. 20231

Dear Sir:

Please amend the above-identified application as follows:

IN THE CLAIMS:

Claim 18, delete line 5.

Please add the following claim:

- 28. A water craft as in Claim 15, and further comprising:
 - a) a relief operably associated with said housing.

REMARKS

Applicant has amended Claim 18 for minor informality and added Claim 28 to further define the invention.

It is believed that not no fee is due; however, should that be incorrect, please charge our Deposit Account No. 19-2105 and informed the undersigned.

Respectfully submitted,

Josefino P. de Leon Reg. No. 33,166

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ROBERT N. YONOVER

INFLATABLE TRANSPORTABLE WATER CRAFT FOR SURVIVAL OR RECREATIONAL APPLICATIONS

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RELATED APPLICATION

This is a nonprovisional application which claims priority from provisional application serial no. 60/065,162, filed November 12, 1997.

FIELD OF THE INVENTION

The present invention relates generally to devices to help provide flotation, protection, mobility, and signaling capability to persons stranded at sea and particularly to devices that can inflate into a paddling water survival craft that can be stowed on a person, boat, aircraft, or the like, until needed in an emergency situation or for use as a recreational device.

BACKGROUND OF THE INVENTION

The present state-of-the-art in recreational and military one-person life rafts consist of circular or elongate-shaped structures that the survivor places his body within. The rafts are subject to the uncontrollable wind and water currents and, therefore, the survivor has no chance of moving the raft towards

a land mass or an approaching ship or aircraft for visual location and subsequent rescue. The present rafts also provide little or no protection against the elements, resulting in severe solar ultraviolet exposure and loss of body heat resulting from cold air/water masses. Furthermore, the most commonly used military one-person life raft is designed for the survivor to be submerged in water at all times. The current one-person life rafts also provide no integral means for simply providing a continuous emergency signal to alert search parties of his whereabouts.

My invention enables a person that finds himself lost at sea to quickly and simply attain flotation, protection, mobility, and signaling capabilities to increase his chances of sustaining his life functions and achieving a safe rescue from his emergency situation. The invention described herein can also be used for recreational purposes wherein water flotation and mobility will be provided in a simple and inexpensive manner. When not in use, the device can be stowed or carried in a compact fashion.

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OBJECTS AND SUMMARY OF THE INVENTION

It is an object of my invention to provide a one-person inflatable water craft which, when deployed, will provide a life support module that will increase a person's chances of surviving the condition of being lost at sea.

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It is another object of my invention is to provide an inflatable survival craft that can be paddled by a survivor's arm movements in order to achieve mobility to get to land or in the path of a search boat or plane.

It is still another object of my invention is to provide a survival craft that provides an extremely rigid structure when inflated with air, thereby providing a stable platform for supporting the user when paddling in a prone face-down position.

It is yet another object of my invention is provide an inflatable survival craft that includes a thermal protective covering to protect the survivor from sun exposure and cold temperatures, thereby keep the survivor's body temperature from becoming too hot or too cold that could lead to a serious life threatening condition.

It is another object of my invention is to provide an inflatable survival craft that includes a visual locating device in the form of a long brightly colored streamer that will float on the water to make the survivor more visible to search parties.

It is another object of my invention is to provide a oneperson survival craft that can be folded when deflated and stowed in a protective case.

It is still another object of my invention is to provide an inflatable craft that can be used for paddling and/or wave surfing for recreational purposes.

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In summary, my invention provides an inflatable one-person survival craft that enables a survivor to paddle to safety, while providing thermal protection for his life functions and continuous passive emergency signaling to alert search parties of their location. The survival craft may be automatically deployed from its compact stowage case by a compressed gas source. A manual hand pump is provided as a source for alternative and supplemental air pressure. The survival craft is constructed with an internal structure, such as a drop-stitch neoprene layered material, that provides for an extremely rigid structure when pressurized with air.

In broad sense, my invention is a water craft, comprising an inflatable, elongate and rigid housing when inflated, having substantially parallel top and bottom walls. The top wall includes a flat surface configured to support a user lying in a prone face-down position. The housing is configured such that a user in the prone face-down position can paddle alternately with his hands toward a direction.

These and other objects of the present invention will become apparent from the following detailed description.

BRIEF DESCRIPTIONS OF THE DRAWINGS

Figure 1 is a perspective view of a one-person survival craft made in accordance with the present invention.

Figures 2A and 2B are top and side elevational views of the one-person survival craft of Fig. 1.

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Figure 3 is a fragmentary enlarged perspective view of the rear portion of the craft of Figure 1.

Figures 4A, 4B and 4C are fragmentary cross-sectional views taken along line 4-4 in Figure 2A, showing internal structures of the craft.

Figures 5A and 5B are perspective views of the craft of Figure 1 shown deployed on water with a user lying prone on top.

Figure 6A is a perspective view of a container for the craft of Figure 1 when deflated and stowed.

Figure 6B is a perspective view of the craft of Figure 1 in the folded and stowed form.

DETAILED DESCRIPTION OF THE INVENTION

A survival water craft 2 is disclosed in Figure 1. The craft 2 includes an inflatable, elongate and rigid housing 4 when inflated, having a top wall 6 and a bottom wall 8, as best shown in Figures 2A and 2B. The top and bottom walls 6 and 8 are joined together along their periphery by conventional means to provide an airtight construction. The housing 4 may be made of nylon material, PVC, urethane or other materials that can be joined together at the edges by heat sealing for mass production purposes. The housing 4 is configured such that a user lying in a prone position on the top wall 6 would be able to reach over the sides 10 of the craft to paddle alternately with his hands toward land or shipping lanes. The housing 4 has front portion 12 which is at an angle with the rest of the housing to

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advantageously allow the craft to skim over the water. The top wall 6 includes a non-skid material 14 to minimize the user from sliding off from craft. A pair of fins 16 are secured to the bottom wall 8 at the rear portion of the housing 4 to provide for directional stability and tracking purposes as the user paddles the water craft by arm motions, similar to paddling a surfboard. Any number of fins 16 may be used. For example, a single fin disposed centrally at the bottom rear end of the housing 4 may be used.

A plurality of attaching rings 18 are secured at a number of places along the periphery of the housing 4 with reinforcing straps 20. A compass 22 is secured to the front end of the housing 4 on the top wall 6 by standard means such that by hookand-loop (VELCRO) fastener 24. The compass 22 allows the user to maintain a certain direction during paddling to reach land or head toward known shipping lanes or search parties.

A thermal protective covering 26 is provided to shelter the user from the extreme elements and thereby increase his chances of survival. The protective covering 26 protects the user from sun exposure and cold temperatures. The protective covering will keep the user's body temperature from becoming too hot or too cold, thereby preventing serious life threatening condition. The protective covering 26 may be made in any shape, as long as it covers at least the user's back and head while the user is paddling in the prone position. For illustrative purposes, the protective covering 26 is disclosed in the shape of a poncho

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including a pair of sleeves 28, a body portion 30, and a hood 32 with a visor 34. The visor 34 is integral to the thermal protective covering 26 to protect the user from solar radiation and water projected onto user's face. Adjustable quick-release attaching straps 36 made of VELCRO fasteners are provided for removably securing the covering 26 to respective attaching rings 18. The attaching straps 36 allow the user to release the protective covering 26 from the craft 2 when necessary. The straps 36 allow positive coverage of the user's body, preventing wind or wave to blow off the covering.

Reflective patches 38 are provided on the back side of the covering 26 to increase the visibility of the user to a rescuer by visual and instrumental detection. The patches 38 may be made of retro-reflective and IR (infra-red) reflective tape.

Arm straps 40 provide means for adjusting the opening of the sleeves 28 to the size of the user's lower arms. The arm straps 40 enable the user's arms to be comfortably fitted inside the sleeves 28 during paddling. The arm straps 40 are adjustable to permit the thermal protective covering to be fastened and adjusted snugly around the user's arms.

The protective covering 26 is reversible with one side being brightly colored to increase the user's visibility to a rescuer and the other side being dull when visibility is not required. A clip 42 removably secures the covering 26 to the attaching ring 18 when the covering 26 is in a stowed position, generally indicated at 44, as best shown in Figure 1. The

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protective covering 26 is rolled up and takes the form generally indicated at 44 when not in use.

A passive signaling device 46 is disposed in a stowed position at the rear end of the craft 2. The signaling device 46 is secured by attaching cords 48 secured to the attaching ring 18, as best shown in Figure 1. The signaling device 46 deploys into a long streamer adapted to float on the water. The streamer is brightly colored to attract the attention of the rescuer. An example of the signaling device 46 is disclosed in U.S. Patent No. 5,421,287, which is incorporated herein by reference. A cover 50 keeps the signaling device 46 in its stowed position. The cover 50 is provided with a VELCRO fastener 52. A strap 54 allows for easy lifting of the cover 50 when deploying the signalling device 46.

An accessory package 56 is disposed at the rear end portion of the housing 4. The package 56 contains a gas cylinder 58 operably connected to an inlet valve 60 of the housing 4. An operating lever 62 provides for release of the pressurized gas into the interior of the housing 4 for quick inflation. The operating lever 62 is operatively connected to a valve (not shown) which may be water-activated for dispensing the compressed gas cylinder upon contact with water in case the user is injured or incapacitated. The package 56 also contains a hand pump 64 as a back-up or supplement to the compressed gas inflation and to provide for periodic re-inflation of craft upon partial pressure loss. The package also contains a patch kit 66

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to enable the user to make emergency repair to any tear or breaks in the housing 4. The housing 4 is provided with a relief valve 68 to advantageously ensure that the craft does not rapture from too much pressure from over inflation from the gas cylinder 58 or from differential temperatures shrinkage. A cover 70 protects the contents of the package 56 when not in use.

A leash 72 with an ankle strap 74 is secured to the attaching ring 18 and to the user's foot. The leash 72 insures that the craft 2 does not become accidentally separated from the user due to a large wave, a gust of wind or any other outside influence.

The top and bottom walls 6 and 18 are connected to each by a plurality of a nylon strings 76 distributed throughout the interior surfaces of the top and bottom walls. The strings 76 act as spacers between the top and bottom walls 6 and 8 such that when the housing 4 is inflated to high pressure, the top and bottom walls maintain relatively flat and parallel surfaces, without bulging. The strings 76 allow the inflated craft to be extremely rigid when inflated with air. A relatively flat upper and lower walls 6 and 8 are required to make the craft stable in water and provide a comfortable supporting surface for the user.

A honeycomb structure 78 may be used in lieu of the nylon strings 76, as best shown in Figure 4B. The honeycomb structure 78 may be in the form of short sleeves distributed throughout the interior volume of the housing 4. Each honeycomb structure

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would be in fluid communication with each other so that only a single inlet valve would be needed to inflate the craft.

Stitching 80 or any other standard means may be used to secure the honeycomb structure 78 to the top and bottom walls 6 and 8 and to adjacent honeycomb structure.

Tubular structure 82 may also be used instead of the nylon string 72 or the honeycomb structure 78, as best shown in Figure 4C. The tubular structure may be in the form of short sleeves distributed throughout the interior volume of the housing 4. Stitching 84 or other standard means may be used to secure the tubular structure 82 to the top and bottom walls 6 and 8 and to adjacent tubular structure. Each tubular structure would be in fluid communication with each other so that only a single inlet valve would be needed to inflate the craft.

It should be understood that the above discussed internal structures are connectors, since they connect the top and bottom walls together. Any other internal structure would be sufficient that will enable the craft to be inflated to high partial pressures to provide a rigid support platform for the user and maintain the top and bottom walls 6 and 8 relatively flat and parallel to each other.

A seal tape 86 may be used to secure the top and bottom walls 6 and 8 at their peripheral edges. Heat sealing the outer edges the walls 6 and 8 may be also used.

The survival water craft 2 is disclosed deployed in Figure 5A on a body of water with the user laying on top of the

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housing 4. The width of the housing 4 is such that the user is able to alternately paddle with his hands to propel the craft The thermal covering 26 is shown being used to protect the user's body and head from life-threatening elements. reflective patches 38, which have retro reflective and infrared reflective properties, provides for visual and instrumental detection by search parties. The visor 34 protects the user from solar radiation and water projected onto the user's face. The arm straps 40 permit the thermal protective covering 26 to be fastened and adjusted snugly to the user. The attaching straps 36 may be adjusted to adjust the fit of the protective covering on the user and to permit the user to leave the craft 2 if required. The signaling device 46 provides a continuous passive emergency signal to enable search parties to locate the survivor. The signaling device 46 has the international distress signal 88 on an end portion of the streamer.

The survival craft 2 may be stowed inside a pack 90, as best shown in Figure 6A. The pack 90 includes straps 92 that can be worn around a user's shoulders. The straps 92 may be also worn around the user's waist by unhooking the straps 92 from the clips 94. The clip 90 can also be attached to a vehicle such as boat or aircraft. The pack may be constructed with water-soluble adhesive such that pack will open upon hitting the water to allow the craft 2 to deploy automatically when the gas cylinder valve is activated by the water.

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The survival craft 2 is in a folded form when in the stowed position, as best shown in Figure 6B. The folded craft 2 is stowed within the pack 90. A strap 96 is secured to the front attaching ring 18 and is wrapped around the deflated craft 2 and secured with a fastener 94, such as a VELCRO fastener. The fastener 94 may be water soluble to permit automatic deployment of the craft 2 when it hits the water.

While this invention has been described as having preferred design, it is understood that it is capable of further modification, uses and/or adaptations following in general the principle of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains, and as may be applied to the essential features set forth, and fall within the scope of the invention or the limits of the appended claims.

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I claim:

- 1. A water craft, comprising:
- a) an inflatable elongate housing including
 5 substantially parallel top and bottom walls, said top wall
 including a flat surface configured to support a user lying in a
 prone face-down position; and
 - b) said housing being configured such that a user in the prone face-down position can paddle alternately with his hands toward a direction.
 - 2. A water craft as in claim 1, and further comprising:
 - a) a covering removably secured to said housing, said covering being configured to cover the body of the user.
 - 3. A water craft as in claim 1, and further comprising:
 - a) means for keeping said top and bottom walls from bulging when said housing is inflated.
 - 4. A water craft as in claim 1, and further comprising:
 - a) a plurality of threads joining said top and bottom walls to each other.
 - 5. A water craft as in claim 1, further comprising:
 - a) a plurality of honeycomb structures disposed within said housing and secured to said top and bottom walls.
 - 6. A water craft as in claim 1, and further comprising:
- a) a plurality of tubular structures disposed within 25 said housing and secured to said top and bottom walls.
 - 7. A water craft as in claim 1, wherein:

- a) said top surface includes a layer of non-skid material.
 - 8. A water craft as in claim 2, wherein:
 - a) said covering includes arm and body portions.
- 5 9. A water craft as in claim 2, wherein:
 - a) said covering includes a hood.
 - 10. A water craft as in claim 9, wherein:
 - a) said hood includes a visor.
 - 11. A water craft as in claim 1, and further comprising:
- a) a water activated gas cylinder operably connected to said housing.
 - 12. A water craft as in claim 1, and further comprising:
 - a) a streamer configured to float on water and secured to an end portion of said housing.
- 15 13. A water craft as in claim 12, wherein:
 - a) said housing is in a rolled-up position prior to deployment;
 - b) a strap disposed around said housing in said rolled-up position; and
- 20 c) said strap includes water soluble fastener.
 - 14. A water craft as in claim 1, and further comprising:
 - a) a pack made from water soluble adhesive;
 - b) said housing is in a rolled-up position prior to deployment; and
- c) said housing is disposed within said pack.
 - 15. A water craft, comprising:

- a) an inflatable elongate housing including top and bottom walls;
- b) said top wall including a non-skid flat surface configured to support a user in a prone face-down position; and
- c) said housing being configured such that the user lying in the prone face-down position on said flat surface can paddle alternately with both hands toward a direction.
 - 16. A water craft as in claim 15, wherein:
- a) said housing includes a front portion disposed at10 an angle with respect to the water level.
 - 17. A water craft as in claim 15, and further comprising:

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 a) a fin disposed underneath said housing.
 - 18. A water craft as in claim 15, wherein:
 - a) said top and bottom walls include peripherical
- 15 edge portions; and
 - b) means for joining said edge portions together.

 ?>> a relief valve operably associated with said housing.
 - 19. A water craft as in claim 15, and further comprising:
- a) a lease operably secured to said housing and for 20 being secured to a body part of the user.
 - 20. A water craft as in claim 15, and further comprising:
 - a) a compass disposed on said top wall visible to the user in the prone position face-down position.
 - 21. A water craft as in claim 15, and further comprising:
- a) a covering removably secured to said housing, said covering being configured to cover the body of the user.

- 22. A water craft as in claim 15, and further comprising:
- a) a streamer configured to float on water and secured to an end portion of said housing.
 - 23. A water craft, comprising:
- a) an inflatable housing including top and bottom walls having opposing inner surfaces;
 - b) said top wall including a flat surface configured to support a user; and
- c) a plurality of connectors secured to said inner

 surfaces, said connectors being configured to maintain said top

 and bottom walls substantially flat when said housing is

 inflated.
 - 24. A water craft as in claim 23, wherein:
 - a) said connectors include a plurality of threads.
 - 25. A water craft as in claim 23, wherein:
 - a) said connectors include a plurality of honeycomb structures.
 - 26. A water craft as in claim 23, wherein:
- a) said connectors include a plurality of tubular 20 structures.
 - 27. A water craft as in claim 23, wherein:
 - a) said top and bottom walls include peripherical edge portions; and
- b) a seal tape operatively secured to said edge25 portions to join said edge portions together.

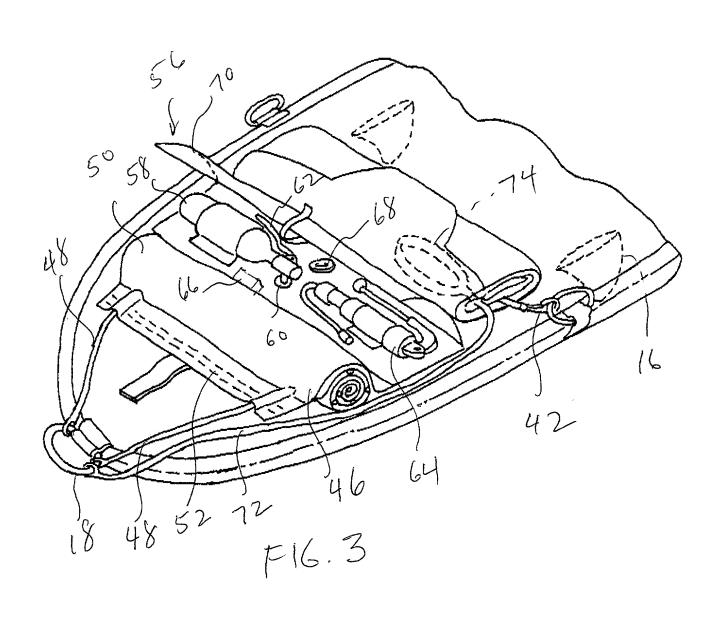
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ABSTRACT

A water craft for survival or recreational purposes, comprises an inflatable elongate housing that provides a platform and has an internal supporting structure for rigidity or multitude of that RY and a fin for stability and tracking purposes as the survivor paddles the water craft by arm motion. The craft is stowed in a compact pouch when not in use and inflated by compressed gases and/or a manual hand pump to sustain the requisite partial pressures of the inflatable water craft. A thermal protective covering with brightly colored pigmentation and retro-reflective and IR- reflective surfaces is provided to protect the survivor from the elements and enhance his visibility. A non-skid surface on the platform enables the survivor to lay on top of the water craft without slipping off. A bright orange colored elongate SEE/RESCUE (trademark) streamer is provided with the water craft for continuous passive emergency signaling purposes to enable search parties to locate the survivor. An attachable leg leash is provided to keep the water craft from separating from the survivor in rough seas and/or wind conditions. A compass is built into the craft to provide direction to the survivor's mobility. In addition to survivor applications, the water craft can be used for water recreational purposes, such as surfing and paddling.

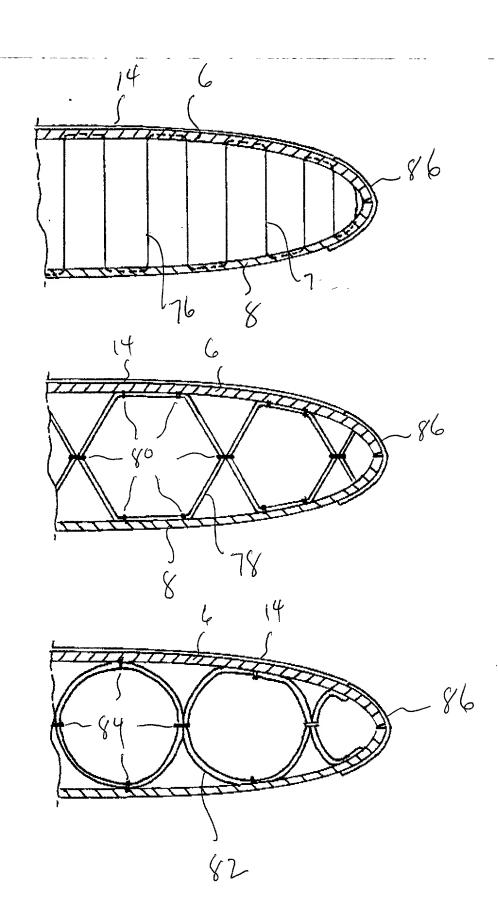
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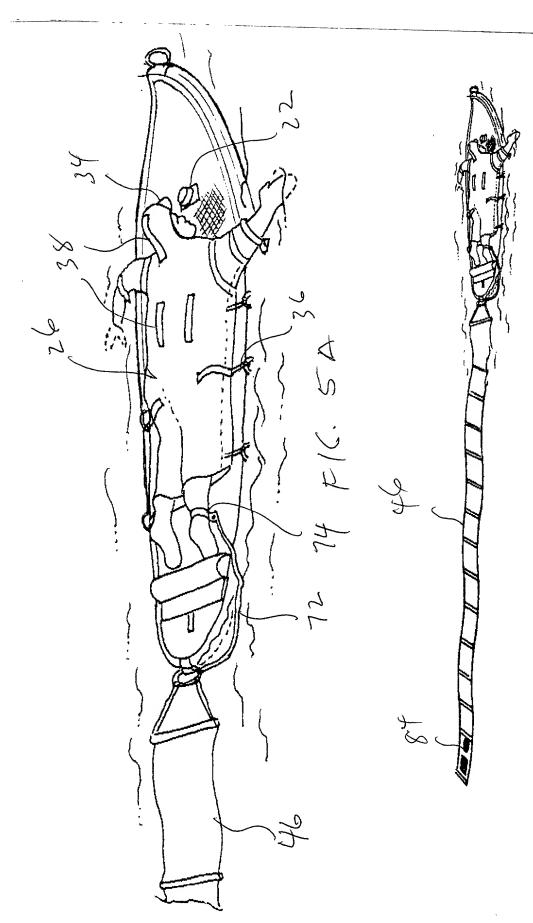


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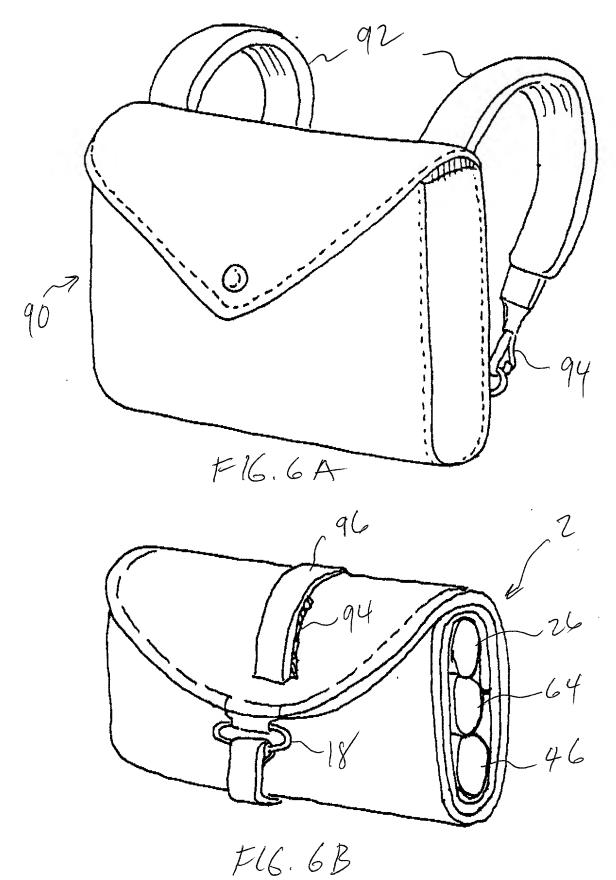
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e Maria

Attorney's Docket No.: 6560-1

____ is attached hereto

DECLARATION AND POWER OF ATTORNEY - ORIGINAL APPLICATION

As a below named inventor, I hereby declare that:

the specification of which

My residence, post office address and citizenship are as stated below beneath my name:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which Letters Patent is sought on the invention entitled

INFLATABLE TRANSPORTABLE WATER CRAFT FOR SURVIVAL OR RECREATIONAL APPLICATIONS

(check one)		was filed on as Application and was amendo	n S.N		
I hereby state that of the above-identif amended by an amendm	ied specifica	ation, including			
I acknowledge the du to the examination o 37, Code of Federal	of this applic	cation in accorda			
I hereby claim forei States Code, §119(a) for patent or invent International Applic other than the Unite identified below any certificate, or a Po date before that of	-(d) or §365 cor's certific cation which c ed States, lis foreign apport	(b) of any foreign cate, or §365(a) of designated at lead sted below and had lication for pated and application had	n applic of any E st one o ve also nt or in aving a	cation CCT countr nventi filin	(s) Y on g
Prior Foreign Applic	cation(s)	Priority Claim	ed		
(Number)	(Country)	(Day/Month/Year	Filed)	YES	NO
(Number)	(Country)	(Day/Month/Year	Filed)	YES	NO

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below:

60/065,162 (Application Ser. No.) November 12, 1997

(Filing Date)

(Application Ser. No.)

(Filing Date)

I hereby claim the benefit under Title 35, United States Code, \$120 of any United States application(s), or \$365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, \$112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, \$1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Ser. No.)

(Filing Date)

(Status)

(patented, pending, abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

B. Edward Shlesinger, Jr., Reg. No. 17,225; George A. Arkwright, Reg. No. 20,158; George A. Garvey, Reg. No. 17,737; Josefino P. de Leon, Reg. No. 33,166; Terrence L. B. Brown, Reg. No. 32,685; Michael M. Zadrozny, Reg. No. 30,985; Brian J. Marton, Reg. Agent 30,292; and Donald Kolasch, Reg. No. 23,038;

SEND CORRESPONDENCE TO: SHLESINGER, ARKWRIGHT & GARVEY
3000 South Eads Street
Arlington, Virginia 22202

DIRECT TELEPHONE CALLS TO Josefino P. de Leon (703) 684-5600

The undersigned hereby authorizes the U.S. attorney(s) or agent(s) named herein to accept and follow instructions from ______ as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney(s) or agent(s) and the

undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney(s) or agent(s) named herein will be so notified by the undersigned.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of sole or	first inventor ROBERT N.	YONOVER , /
Inventor's signature	first inventor ROBERT N.	Date 1//05/98
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Citizenship <u>U.S.</u>		
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	96825	